

WHAT IS CLAIMED IS:

1. A bracket apparatus for mounting a control device for a bicycle transmission to a bicycle frame, wherein the frame is of the type having a bottom bracket shell, a seat tube

5 extending upwardly relative to the bottom bracket shell, a first chain stay extending rearwardly relative to the seat tube and a first seat stay extending rearwardly relative to the seat tube above the first chain stay, wherein the apparatus comprises:

a bracket base for supporting the control device at least partially above the first chain stay;

10 a first bracket support for coupling the bracket base to at least one of the first chain stay and the first seat stay; and

a second bracket support for coupling the bracket base to at least one of the first chain stay, the seat tube, and the bottom bracket shell.

15 2. The apparatus according to claim 1 wherein the first bracket support is adapted to couple the bracket base to the first chain stay, and wherein the second bracket support is adapted to couple the bracket base to the first chain stay.

20 3. The apparatus according to claim 2 wherein at least one of the first bracket support and the second bracket support is laterally offset from a center of the bracket base when viewed from a front of the bracket base.

25 4. The apparatus according to claim 3 wherein the first bracket support and the second bracket support are laterally offset from a center of the bracket base when viewed from a front of the bracket base.

30 5. The apparatus according to claim 2 wherein at least one of the first bracket support and the second bracket support extends downwardly from a lateral side of the bracket base when viewed from a front of the bracket base.

6. The apparatus according to claim 5 wherein the first bracket support and the second

bracket support extend downwardly from a lateral side of the bracket base when viewed from a front of the bracket base.

7. The apparatus according to claim 2 wherein the bracket base includes a mounting structure disposed on an upper surface thereof for mounting the control device above the bracket base.

8. The apparatus according to claim 7 wherein the bracket base includes a mounting hole on the upper surface thereof for forming the mounting structure.

9. The apparatus according to claim 2 wherein the bracket base includes a mounting flange extending upwardly from an upper surface thereof for mounting the control device to the bracket base.

10 10. The apparatus according to claim 9 wherein the mounting flange is disposed at a front of the bracket base.

11. The apparatus according to claim 2 wherein at least one of the first bracket support and the second bracket support is disposed at a front of the bracket base.

12. The apparatus according to claim 11 wherein the first bracket support is disposed behind the second bracket support, and wherein the second bracket support is disposed at a front of the bracket base.

13. The apparatus according to claim 2 wherein the first bracket support includes a first mounting opening, and wherein the second bracket support includes a second mounting opening.

14. The apparatus according to claim 13 wherein the second mounting opening has a 30 threaded inner peripheral surface.

15. The apparatus according to claim 2 wherein an upper surface of the bracket base is substantially flat along substantially its entire length.

16. The apparatus according to claim 2 wherein at least a portion of the first bracket support extends substantially parallel to the second bracket support.

17. The apparatus according to claim 2 wherein the bicycle frame is of the type having a second chain stay extending rearwardly relative to the seat tube, and further comprising a bracket support bridge adapted to bridge the first chain stay and the second chain stay for coupling the second bracket support to the first chain stay and to the second chain stay.

18. The apparatus according to claim 17 further comprising a clamping band for coupling the first bracket support to the first chain stay.

19. The apparatus according to claim 1 wherein the first bracket support is adapted to couple the bracket base to the first chain stay, and wherein the second bracket support is adapted to couple the bracket base to the bottom bracket shell.

20. The apparatus according to claim 19 wherein the second bracket support includes an opening for aligning with an opening in the bottom bracket shell.

21. The apparatus according to claim 20 wherein the second bracket support includes a chain case mounting structure for mounting a chain case thereto.

22. The apparatus according to claim 20 further comprising a clamping band for coupling the first bracket support to the first chain stay.

23. The apparatus according to claim 19 wherein at least one of the first bracket support and the second bracket support is laterally offset from a center of the bracket base when viewed from a front of the bracket base.

24. The apparatus according to claim 23 wherein the first bracket support and the second bracket support are laterally offset from a center of the bracket base when viewed from a front of the bracket base.

5 25. The apparatus according to claim 19 wherein at least one of the first bracket support and the second bracket support extends downwardly from a lateral side of the bracket base when viewed from a front of the bracket base.

10 26. The apparatus according to claim 25 wherein the first bracket support and the second bracket support extend downwardly from a lateral side of the bracket base when viewed from a front of the bracket base.

15 27. The apparatus according to claim 19 wherein the bracket base includes a mounting structure disposed on an upper surface thereof for mounting the control device above the bracket base.

20 28. The apparatus according to claim 27 wherein the bracket base includes a mounting hole on the upper surface thereof for forming the mounting structure.

29. The apparatus according to claim 19 wherein the bracket base includes a mounting flange extending upwardly from an upper surface thereof for mounting the control device to the bracket base.

30. The apparatus according to claim 29 wherein the mounting flange is disposed at a 25 front of the bracket base.

31. The apparatus according to claim 19 wherein at least one of the first bracket support and the second bracket support is disposed at a front of the bracket base.

32. The apparatus according to claim 31 wherein the first bracket support is disposed behind the second bracket support, and wherein the second bracket support is disposed at a front of the bracket base.

5 33. The apparatus according to claim 19 wherein the first bracket support includes a first mounting opening, and wherein the second bracket support includes a second mounting opening.

10 34. The apparatus according to claim 19 wherein an upper surface of the bracket base is substantially flat along substantially its entire length.

15 35. The apparatus according to claim 19 wherein at least a portion of the second bracket support extends substantially parallel to the first bracket support.

20 36. The apparatus according to claim 1 wherein the first bracket support is adapted to couple the bracket base to the first chain stay, and wherein the second bracket support is adapted to couple the bracket base to the seat tube.

25 37. The apparatus according to claim 36 wherein at least one of the first bracket support and the second bracket support is laterally offset from a center of the bracket base when viewed from a front of the bracket base.

38. The apparatus according to claim 37 wherein the first bracket support and the second bracket support are laterally offset from a center of the bracket base when viewed 25 from a front of the bracket base.

39. The apparatus according to claim 36 wherein at least one of the first bracket support and the second bracket support extends downwardly from a lateral side of the bracket base when viewed from a front of the bracket base.

40. The apparatus according to claim 39 wherein the first bracket support and the second bracket support extend downwardly from a lateral side of the bracket base when viewed from a front of the bracket base.

5 41. The apparatus according to claim 36 wherein the bracket base includes a mounting structure disposed on an upper surface thereof for mounting the control device above the bracket base.

10 42. The apparatus according to claim 41 wherein the bracket base includes a mounting hole on the upper surface thereof for forming the mounting structure.

15 43. The apparatus according to claim 36 wherein the bracket base includes a mounting flange extending upwardly from an upper surface thereof for mounting the control device to the bracket base.

19 44. The apparatus according to claim 43 wherein the mounting flange is disposed at a front of the bracket base.

20 45. The apparatus according to claim 36 wherein at least one of the first bracket support and the second bracket support is disposed at a front of the bracket base.

25 46. The apparatus according to claim 45 wherein the first bracket support is disposed behind the second bracket support, and wherein the second bracket support is disposed at a front of the bracket base.

47. The apparatus according to claim 36 wherein the first bracket support includes a first mounting opening, and wherein the second bracket support includes a second mounting opening.

30 48. The apparatus according to claim 36 wherein an upper surface of the bracket base is substantially flat along substantially its entire length.

49. The apparatus according to claim 36 further comprising a first clamping band for coupling the first bracket support to the first chain stay.

50. The apparatus according to claim 49 further comprising a second clamping band 5 for coupling the second bracket support to the seat tube.

51. The apparatus according to claim 36 further comprising a clamping band for coupling the second bracket support to the seat tube.

10 52. The apparatus according to claim 1 wherein the first bracket support is adapted to couple the bracket base to the first seat stay, and wherein the second bracket support is adapted to couple the bracket base to the first chain stay.

15 53. The apparatus according to claim 52 wherein at least one of the first bracket support and the second bracket support is laterally offset from a center of the bracket base when viewed from a front of the bracket base.

20 *54.* The apparatus according to claim 2 wherein the second bracket support extends downwardly from a lateral side of the bracket base when viewed from a front of the bracket base.

55. The apparatus according to claim 54 wherein the first bracket support extends rearwardly from the bracket base.

25 56. The apparatus according to claim 52 wherein the bracket base includes a mounting structure disposed on an upper surface thereof for mounting the control device above the bracket base.

30 57. The apparatus according to claim 56 wherein the bracket base includes a mounting hole on the upper surface thereof for forming the mounting structure.

58. The apparatus according to claim 52 wherein the bracket base includes a mounting flange extending upwardly from an upper surface thereof for mounting the control device to the bracket base.

5 59. The apparatus according to claim 58 wherein the mounting flange is disposed at a front of the bracket base.

60. The apparatus according to claim 52 wherein the second bracket support is disposed at a front of the bracket base.

10 61. The apparatus according to claim 60 wherein the first bracket support is disposed behind the second bracket support and extends rearwardly from the bracket base, and wherein the second bracket support is disposed at a front of the bracket base.

15 62. The apparatus according to claim 52 wherein the first bracket support includes a first mounting opening, and wherein the second bracket support includes a second mounting opening.

20 63. The apparatus according to claim 52 wherein an upper surface of the bracket base is substantially flat along substantially its entire length.

25 64. The apparatus according to claim 52 wherein the bicycle frame is of the type having a second chain stay extending rearwardly relative to the seat tube, and further comprising a bracket support bridge adapted to bridge the first chain stay and the second chain stay for coupling the second bracket support to the first chain stay and to the second chain stay.

65. The apparatus according to claim 64 further comprising a clamping band for coupling the first bracket support to the first seat stay.

66. A bracket apparatus for mounting a control device for a bicycle to a bicycle frame, wherein the frame is of the type having a bottom bracket shell, a seat tube extending upwardly relative to the bottom bracket shell, a first chain stay extending rearwardly relative to the seat tube and a first seat stay extending rearwardly relative to the seat tube above the first chain stay, wherein the apparatus comprises:

5 a bracket base for supporting the control device at least partially above the first chain stay; and

10 a bracket support extending from the bracket base for coupling the bracket base to at least one of the first chain stay, the first seat stay, the seat tube, and the bottom bracket shell.

15 67. The apparatus according to claim 66 wherein the bracket base has a substantially horizontal mounting surface for mounting the control device to the bracket base.

20 68. The apparatus according to claim 67 wherein the bicycle frame is of the type having a second chain stay extending rearwardly relative to the seat tube, and further comprising a bracket support bridge adapted to bridge the first chain stay and the second chain stay for coupling the bracket support to the first chain stay and to the second chain stay.

25 69. The apparatus according to claim 66 wherein the bracket base has a substantially vertical mounting surface for mounting the control device to the bracket base.

70. The apparatus according to claim 69 wherein the bicycle frame is of the type having a second chain stay extending rearwardly relative to the seat tube, and further comprising a bracket support bridge adapted to bridge the first chain stay and to the second chain stay for coupling the bracket support to the first chain stay and to the second chain stay.

71. The apparatus according to claim 70 wherein the bracket support bridge includes:

20 a bracket support mounting wall for mounting the bracket support bridge to the bracket support; and

30 a clamping member for mounting the bracket support bridge to the first chain stay and to the second chain stay.

72. The apparatus according to claim 71 wherein the clamping member is substantially horizontal, and wherein the bracket support mounting wall extends upwardly from the clamping member.

5 73. The apparatus according to claim 72 wherein the bracket support mounting wall includes an elongated opening for adjusting a vertical position of the bracket support bridge relative to the bracket support.

10 74. The apparatus according to claim 72 further comprising a bracket support ear extending from the bracket support mounting wall.

15 75. The apparatus according to claim 74 wherein the bracket support mounting wall, the clamping member and the bracket support ear are substantially orthogonal to each other.

20 76. The apparatus according to claim 69 further comprising a brace extending substantially horizontally from the bracket base for mounting the control device to the bracket base.

25 77. The apparatus according to claim 66 wherein the bracket support extends downwardly from the bracket base.

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